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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,463	12/04/2003	Maximing Aguilar JR.	END920030111US1	1258

7590 10/26/2007  
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EXAMINER
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TRUONG, CAMQUY

ART UNIT	PAPER NUMBER
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2195

MAIL DATE	DELIVERY MODE
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10/26/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

28

<b>Office Action Summary</b>	<b>Application No.</b> 10/729,463	<b>Applicant(s)</b> AGUILAR ET AL.	
	<b>Examiner</b> Camquy Truong	<b>Art Unit</b> 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/4/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. Claims 1-20 are presented for examination.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 8-9, 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato (U.S. Patent Application Publication. 2001/0051971 A1).

3. As to claims 1 and 8, Kato teaches the invention as including: a method of task management comprising the steps of:

a. receiving one or more tasks to be executed (allocate the many tasks of the overall processing work among the processors so that none are overloaded or excessively idle, paragraph 5, lines 14-17/ performing processing task in parallel on a plurality of processors comprises: breaking down a processing task into a ..., paragraphs 15 – 16. it is inherent that in order to perform processing task in parallel on a plurality of processors, the processing task has to be received);

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b. atomizing the one or more tasks into one or more atomic sub-tasks (breaking down a processing task into a plurality of self-contained task objects, paragraph 16, lines 1-2); and

c. designating access rights to one or more computing resources for each atomic sub-task of the one or more atomic sub-tasks ( each task object is defined with a computational task and at least one "data-waiting" slot , paragraph 16, lines 2-4 / the master task grouping maintains an internal space address assigned to each respective task object, paragraph 21, lines 9-10).

4. As to claim 9, Kato teaches a central task queue for storing the one or more atomic sub-tasks waiting to be executed (all task objects in the active state from any of the task spaces are placed on the queue, and each is assigned in turn to a next available processor, paragraph 21, lines 4-7).

5. As to claim 13, it is rejected for the same reason as claim 7.

6. As to claims 14-15, Kato teaches one or more processors for executing the tasks (paragraph 17).

7. Claims 2-7, 10-12, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato (U.S. Patent Application Publication. 2001/0051971 A1) in view of Koning (U.S. Patent Publication 2002/0133530 A1).

8. As to claim 16, method of task management comprising the steps of:

a. receiving one or more tasks to be executed (allocate the many tasks of the overall processing work among the processors so that none are overloaded or excessively idle, paragraph 5, lines 14-17/ performing processing task in parallel on a plurality of processors comprises: breaking down a processing task into a ..., paragraphs 15 – 16. it is inherit that in order to perform processing task in parallel on a plurality of processors, the processing task has to be received);

b. atomizing the one or more tasks into one or more atomic sub-tasks (breaking down a processing task into a plurality of self-contained task objects, paragraph 16, lines 1-2);

c. designating access rights to one or more computing resources for each atomic sub-task of the one or more atomic sub-tasks ( each task object is defined with a computational task and at least one “data-waiting” slot , paragraph 16, lines 2-4 / the master task grouping maintains an internal space address assigned to each respective task object, paragraph 21, lines 9-10);

e. obtaining via a first idle processor of a plurality of processors a first atomic sub-task from the central task queue (all task objects in the active states from any of the spaces are placed on the queue, and each is assigned in turn to a next available unoccupied processor, paragraph 21), the first idle processor inheriting the access rights to one or more computing resources of the first atomic sub-task in executing the first atomic sub-task (when all of its defined data-waiting slots have been filled, it is assigned to a next available processor, paragraph 19); and

f. obtaining via a further idle processor of the plurality of processors a further atomic sub-task from the central task queue (all task objects in the active states from any of the spaces are placed on the queue, and each is assigned in turn to a next available unoccupied processor, paragraph 21), the further idle processor inheriting the access rights to one or more computing resources of the further atomic sub-task in executing the further atomic sub-task (when all of its defined data-waiting slots have been filled, it is assigned to a next available processor, paragraph 19).

9. Kato does not explicitly teach scheduling the one or more atomic sub-tasks into a central task queue according to one or both of temporal and priority considerations. However, Koning teaches scheduling the one or more atomic sub-tasks into a central task queue according to one or both of temporal and priority considerations (paragraph 26).

10. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of scheduling the one or more atomic sub-tasks into a central task queue according to one or both of temporal and priority considerations as taught by Koning to the invention of Kato because this allows one or more tasks to be executed according to their priority to improve run-time efficiency.

11. As to claims 2-3, Koning teaches scheduling the one or more atomic sub-tasks into a central task queue (paragraph 26).

12. As to claims 4-6, and 17, Koning teaches obtaining from a first idle processor of a plurality of processors a first atomic sub-task from the central task queue (all task objects in the active states from any of the spaces are placed on the queue, and each is assigned in turn to a next available unoccupied processor, paragraph 21), the first idle processor thereby inheriting the access rights to one or more computing resources of the first atomic sub-task in executing the first atomic sub-task (when all of its defined data-waiting slots have been filled, it is assigned to a next available processor, paragraph 19).

13. As to claim 7, Kato teaches the step of combining one or more atomic results of execution of each atomic sub-task corresponding to a task into a result of the task (paragraph 48).

14. As to claim 10, Koning teaches a task scheduler for arranging the one or more atomic sub-tasks in the central task queue (paragraph 26).

15. As to claim 11, Kato teaches the step of combining one or more atomic results of execution of each atomic sub-task corresponding to a task into a result of the task (paragraph 48).

16. As to claim 12, Koning teaches comprising one or more processors for executing the tasks (paragraph 17, lines 1-3).

17. As to claim 18, Kato teaches the step of combining one or more atomic results of execution of each atomic sub-task corresponding to a task into a result of the task (paragraph 48).

18. As to claim 19, Koning teaches scheduling the one or more atomic sub-tasks into a central task queue is done according to temporal considerations (entries stored in queues in priority order may need to be re-sorted, paragraph 88).

19. As to claim 20, Koning teaches scheduling the one or more atomic sub-tasks into a central task queue is done according to priority considerations (tasks may have entries stored on the ready queue in priority order, paragraph 26).

### ***Conclusion***

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Camquy Truong whose telephone number is (571) 272-3773. The examiner can normally be reached on 8:00Am – 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3756.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for



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published applications may be obtained from either Private PAIR or Public PAIP. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIP system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

Camquy Truong

October 9, 2007



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**SUPERVISORY PATENT EXAMINER**  
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